

**FINAL ENVIRONMENTAL ASSESSMENT
STATEMENT OF FINDINGS
AND
FINDINGS OF NO SIGNIFICANT IMPACT**

File No. 200500422

Putman Properties Application
for Proposed Commercial Marina (Shoals Landing Marina) at
Town Creek Embayment, Tennessee River Mile 272.0L
Wilson Lake, Colbert County, Alabama

U.S. ARMY CORPS OF ENGINEERS
Nashville District, Regulatory Branch
Cooperating Agency
Tennessee Valley Authority

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1.0 Proposed Activity

1.1. Background. Putman Properties, Inc. (applicant) submitted an application for a Department of the Army (DA) permit and Tennessee Valley Authority (TVA) 26a permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (CWA) for construction of a commercial marina. The proposed project location is Town Creek Embayment at Tennessee River Mile 272.0, left bank, on Wilson Lake, in Colbert County, Alabama. The joint Tennessee Valley Authority (TVA) and DA application was received on 22 February 2005. Additional information was requested during a 23 March 2005 onsite meeting (See Memorandum for Record in Appendix A with project photos). The applicant provided additional information for the marina during a meeting in 9 January 2006 (See MFR in Appendix A). A complete application was received on 27 January 2006. Public Notice 06-10 was issued on 31 January 2006 (See Appendix B for public notice with project description and location map).

After expiration of the public notice, other meetings were held with the applicant to discuss the Corps' and TVA's concern of the large size of the marina on 4 April 2006 and 12 May 2006. See Appendix C for MFRs of the meetings. After negotiation with the applicant, it was agreed that Marina B (as labeled on the project plans) would not be constructed until the applicant had demonstrated that at least 50% of the 70' plus boat slips in Marina A were occupied. In addition, due to navigation concerns on the main channel and the harbor limit size, boat moorage would not be allowed on the outside perimeter of Marina B except on the upstream side of the marina. This moorage would also only be for transient docking.

In addition, the proposed project site is the location of the former Town Creek Marina (and most recently named The Point Marina), which had been permitted by both TVA and the Corps in 1988 (See the project file for permits). A marina was constructed and was present on the site until recently the applicant removed the old dock facilities. See Appendix A for photos of the former marina facilities. An aerial photo can be found in Appendix D that shows the former marina facilities. Also, an aerial photo in Appendix D shows the former marina facilities with the proposed harbor limits.

1.2. Proposed Action and Scope of Work – as Advertised in Public Notice 06-10.

The proposed work consists of the construction of a commercial marina, Shoals Landing Marina, and its associated facilities at the subject location. The new marina facilities would include construction of 398 public boat slips, with 13 slips designated as transient docking. Marina A would be constructed within the same location as the previous marina known as The Point Marina, but would involve extension of the proposed harbor limits with additional boat slips. Marina A would involve a total of 315 public slips, 13 transient slips, and a ship store with fuel

dock. The existing pier and boardwalk, previously used for The Point Marina, would remain in place for docking at the onsite restaurant. Marina B would involve a total of 83 boat slips within new harbor limits. To provide adequate water depth for the marina, dredging has been proposed to create an access channel. The dredging would be a 100' wide channel by 800' long. The area would be dredged to bottom Elevation 495.5', which is 12' below the normal summer pool (NSP) Elevation 507.5' for Wilson Lake and 9' below the normal winter pool (NWP) Elevation 504.5'. A 10' wide undisturbed buffer would be maintained between the dredged area and the NSP shoreline. The applicant designed the plans to avoid dredging a shallow water area near the island shown on the plans. The material would be dredged by a clamshell and loaded on a truck and hauled off to an upland disposal site. The disposal site is located within an existing excavated/borrow area near the project site, as shown on the plans. Approximately 1930' of riprap is existing along the shoreline that was placed for bank stabilization. However, the applicant proposes to stabilize the remaining 1,065' of shoreline with riprap. A 6' wide fixed boardwalk would be constructed along the entire length of the shoreline. The boardwalk would extend lakeward various distances but extend out a maximum of 20' from the NSP shoreline. An existing boat ramp would be left in place and remain open for public use.

The public marina activities would be supported by typical marina services, such as fuel and sewage pump-out services, a restaurant, and ship store. The upland development would involve three condominium buildings for residential homes.

The overall purpose of the proposed work would be to provide enhanced recreational and water-related opportunities on this area of Wilson Lake by providing a commercial public marina, especially with slips large enough to accommodate larger-size boats, and its associated facilities. The scope of the analysis under the National Environmental Policy Act (NEPA) includes the proposed harbor area and associated upland features.

1.4. Decision Required. Section 10 of the Rivers and Harbors Act of 1899 prohibits the alteration or obstruction of any navigable waters of the United States unless authorized by the Secretary of the Army acting through the Chief of Engineers. The location of the proposed work is a navigable water of the United States as defined by 33 CFR Part 329. Section 301 of the CWA prohibits the discharge of dredged or fill material into waters of the United States unless authorized by the Department of the Army pursuant to Section 404 of the same Act. The location of the proposed work is a water of the United States as defined by 33 CFR Part 328. Section 26a of the TVA Act requires that no dam, appurtenant work, or other obstruction affecting navigation, flood control, or public lands or reservations be constructed and thereafter operated or maintained across, along, or in the Tennessee River or any of its tributaries until plans for such construction, operation, and maintenance have been submitted to and approved by TVA. TVA is a cooperating agency in this EA. TVA and DA permits are required for the work; therefore, the agencies must decide on one of the following:

- a. issuance of a permit for the proposal,
- b. issuance of a permit with modifications or conditions,
- c. denial of the permit.

1.5. Other Approvals Required. In addition to the TVA and DA permits, other federal, state, and local approvals required for the proposed work are as follows:

- a. A Water Quality Certification from the Alabama Department of Environmental Management (ADEM) in accordance with Section 401(a)(1) of the Clean Water Act (CWA). ADEM issued the required water quality certification by letter dated 13 April 2006 (See Appendix E). The water quality certification listed special conditions that if adhered to, it is not expected that the proposed project would violate state water quality standards established under Section 303 of the CWA.

2.0 Public Involvement Process.

On 31 January 2006, Public Notice 06-10 was issued to advertise the proposed work (See Appendix B for the public notice). All responses to the proposed work and public notice are included in Appendix F. A summary of the responses follows:

- a. The U.S. Fish and Wildlife Service (USFWS) responded to the public notice by letter dated 21 February 2006, stating that endangered species collection records available do not indicate that federally listed or proposed endangered or threatened species occur within the impact area of the project. USFWS stated that they believe that the requirements of Section 7(c) of the Endangered Species Act of 1973, as amended, are fulfilled. Also, USFWS does not anticipate adverse effects to fish and wildlife or their habitats as a result of the proposed work. They recommend that the dredging activities occur when reservoir levels are at normal winter pool conditions and recommend that best management practices (BMPs) should be employed during construction and maintenance of the project to avoid or minimize sedimentation into the Tennessee River. Otherwise, USFWS has no objection to the issuance of a permit for the work.
- b. The Alabama Historical Commission (AHC) responded to the public notice by letter dated 10 March 2006, requesting that the applicant perform a cultural resource assessment for the undisturbed portions of the project area.
- c. The state of Alabama, Department of Conservation and Natural Resources, responded by letter dated 2 March 2006, stating that they recommend that the existing launching ramp be kept open for public use following the termination of the county lease. They indicated that a portion of Town Creek has been designated as a state-owned waterbottom. Therefore, the applicant should coordinate with the State Lands Division regarding potential impacts to

- state-owned waterbodies. They recommended the applicant contact the Marine Police Division regarding navigational safety aspects. They recommended the applicant contact the malacologist Jeff Garner, with the Division of Wildlife and Fishwater Fisheries and coordinate with Natural Heritage Section regarding potential impacts to protected species. They also requested that bank stabilization be performed by riprap rather than a seawall.
- d. Mr. Willson Jenkins responded by letters dated 16 March 2006 stating that a public hearing would be helpful for the adjacent land owners in the Town Creek area and he is concerned that the marina would put too much pressure on the marine traffic in the Town Creek area. Mr. Jenkins also responded by another letter dated 1 March 2006, stating that the proposed marina is extensive or too big for the area in question. He indicated that he would not oppose a more scaled-back version more consistent with the previous historical structures. Also, Town Creek is a shallow basin and currently servicing as a considerable wildlife habitat and is on the Alabama Bird Watching Trail.
 - e. Mr. R.L. Moore commented on the proposed work by letter dated 13 March 2006, stating they he would like to request a public hearing involving this proposal. Also, he stated concerns over the material to be dredged should not be dumped near subdivisions due to the possibility of additional PCB contamination. Colbert County Health officials need to be aware of the massive amount of sewage that would need to be pumped to the higher elevation and the waste drainage from the new residents and marina could eventually seep into the lake. Also, he feels that this project would affect the neighborhood, wildlife, leisure boating, bas tournaments, water traffic, and historical Indian burial grounds. Mr. Moored indicated that the marina would destroy many of the land owners shore line and views. Mr. Moore also provided another letter dated 25 February 2006, that provided an additional five property owners names and addresses, commenting on the proposed work. This letter stated a request for denial of the permit based on proposal is very vague in design, area impact, road design and accessibility, sewage waste and drainage, impacts on Point Cove subdivision, Doublehead Resort, and boating limitations.
 - f. Mike and Carol Raney commented on the proposed work by letter dated 10 March 2006, stating they are concerned that the new marina would bombard the area with litter, fuel spills, waste dumped from the larger boats, and excessive traffic. They indicated it would be nice to have the restaurant/bar reopened, a store for supplies, gas, and maybe a small boat slip marina. They hope there would be a public meeting.

Other Comments Received Concerning the Proposal: TVA provided a letter dated 15 March 2006, stating that 1) activities in the immediate area, as well as increased boater activity, could have detrimental effects on species migratory patterns; 2) care must be taken to avoid activities directly involving the island and the wetland adjacent to the islands; 3) they have no objection to the project from a flood control standpoint provided that four special conditions be added to the permit to minimize the flood control impacts; 4) the request involves the maintenance of an existing 2,000

gallon gasoline underground storage tank (UST) and the installation of two new 8,000 gallon above ground storage tanks (AST). They indicated that a Spill Prevention Control and Countermeasure (SPCC) plan would have to be prepared and certified by a professional engineer and; 5) they request a market analysis, feasibility study, and development schedule for the proposed activities in order to further analyze recreation impacts and need and impacts on navigation].

Analysis of Comments Received: Copies of the comments were forwarded to the applicant by letter on 27 January 2006. The applicant responded to the comments by letter dated 28 March 2006 and the issues area discussed in the sections below (See Appendix H). All concerns and objections raised were addressed in the applicant's responses as follows:

Archaeological Concerns: The applicant provided the AHC additional information concerning the cultural resources of the area and advised them that the proposed area for development has previously been disturbed from existing structures and land-clearing activities. In response to the applicant's information, AHC provided a letter dated 16 March 2006, stating they have determined that the proposed activities will not have an effect on any known cultural resources listed on or eligible for the National Register of Historic Places. See Appendix G for the AHC clearance letter.

Market Analysis and Feasibility Study: Due to the concerns over the large size of the proposed marina, TVA requested a market analysis and feasibility study for the proposed work. The applicant provided a document titled "*Market and Feasibility Plan by Putman Properties, LLC for Shoals Landing Marina, Muscle Shoals, Alabama*". This document is marked "Classified" by the applicant and can be found in the project file. After review of the document, TVA prepared a Wilson Reservoir Recreation Assessment (See Appendix I) for the project and Wilson Lake. This assessment discusses the existing environment, demand for marina facilities, existing marina and boating facilities, and the environmental consequences for the project. The assessment indicates that the applicant's proposal, if approved, would more than double the existing number of commercially available slips on Wilson. There have been relatively insignificant capital investments in marina facilities on Wilson in many years. The existing commercial marinas have been described as "rustic" and "aging". Additionally, each existing marina is restricted from making substantial increases in their harbor limits due to adjacent residential developments, highway right-of-ways and other physical constraints. Marina Mar has indicated they will request an increase in harbor limits upon completion of the new US 72 bridge construction later in 2006. Due to existing residential developments and the right-of-way the increase is expected to be insignificant. Representatives from Emerald Beach marina have indicated they will be requesting increased harbor limits. Due to residential developments on either side, the only direction to increase would be towards the navigation channel. It is expected any increase in slips would be insignificant. Dry boat storage facilities on Wilson are currently limited to Steenson Marina which can accommodate 40 boats. TVA and Corps are currently reviewing an application for a commercial harbor for a proposed dry boat storage facility at TRM 264L that

will accommodate approximately 100 boats. Emerald Beach Marina is proposing to add a dry boat storage facility to accommodate 250 boats.

Wilson Reservoir Marinas Area Name	County	Rivermile	Operator	Wet slips	Dry slips	Fuel	Boat Repair	Boat Sewage Pumpout
J & J Marine	Colbert	260.0 L	Commercial	40	40	1	1	0
Emerald Beach Marina	Lauderdale	265.0 R	Commercial	107	24	1	1	1
Marina Mar	Lauderdale	265.0 R	Commercial	155	0	1	0	1
Turtle Point Yacht Club	Lauderdale	265.3 R	Private Membership	100	0	0	0	0
Muscle Shoals Sailing Club	Lauderdale	271.4 R	Private Membership	50	0	0	0	0
The Point (Shoals Marina proposed location)	Colbert	272.0 L	Commercial	0	0	0	0	0
Fisherman's Resort	Lawrence	274.0 L	Commercial	20	0	1	0	0
TOTAL:				472	64	4	2	2

The chosen location is perhaps the last place that a sizable area of protected water is available. The data indicates a growing market for such facilities in the area. This analysis considers impacts of the entire project, however, because of the scale and that it proposes to more than double the existing commercial slips, a permit for Marina B would not be issued until Marina A has achieved a verifiable occupancy of at least 50% (at least 26) of the 70' slips in Marina A. Verification would be by presentation of contracts in place for the 70' slips. In order to continue to serve the general public, the boat ramp located on premises should remain open to the public via a lease with the County or the State after expiration of the current lease in 2008. TVA strongly recommends that the applicant continue negotiations with the County Commission. Closing the ramp to the general public would represent a 20% reduction in available public ramps on Wilson. Also in order to ensure public access to public waters, the owner should commit to maintaining a minimum of 25% of the wet slips in each phase available to the general public and transient boaters. In order to ensure the public availability to the boat slips and occupancy of the marina, it is recommended if the DA and TVA permits are issued, they would be conditioned as recommended in the assessment. In summary, TVA's recreational assessment states the chosen location is perhaps the last place that a sizable area of protected water is available and the data indicates a growing market for such facilities in the area.

Bank Stabilization: Approximately 1930' of riprap is existing along the shoreline that was placed for bank stabilization. However, the applicant proposes to stabilize the remaining 1,065' of shoreline with riprap. No retaining walls are proposed for the bank stabilization.

Water Quality: ADEM issued the required Section 401 Water Quality Certification by letter dated 13 April 2006 (See Appendix E). The certification indicates that the proposed work would not violate applicable water quality standards pursuant to Section 401 of the Federal Clean Water Act

and will not violate provisions of the Alabama Water Quality Control Act. Therefore, the water quality certification would be incorporated into the DA permit, if issued.

3.0 Environmental and Public Interest Factors Considered

3.1. Introduction. 33 CFR 320.4(a) states the decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. All factors that may be relevant to the proposal must be considered. The public notice listed those factors. The following sections describe the existing setting, show which public interest factors are relevant and provide a concise description of the impacts of the project description with all submitted plans.

3.2 Site Description. According to TVA's recreational assessment, Wilson Reservoir has a normal pool area of 15,500 acres with 150 shoreline miles. The water elevation varies annually between 504.5 and 507.7. Wilson has wide unobstructed views from the water because it has virtually no islands and is approximately one mile wide near Wilson Dam and averages over a mile in width throughout its length. There are no bridges across the mainstream reservoir and no aerial powerline crossings that might obstruct navigation. There are no underwater hazards to navigation on the mainstream reservoir. Under normal conditions the annual pool level of Wilson only varies approximately 3 feet and routinely has daily fluctuations of one to two feet making it a very desirable lake for recreational boating. While the wide open nature of Wilson is desirable, the recreational value of the reservoir is hampered by the lack of coves for private anchorages by recreational boaters as well as transient boaters. Shoal Creek is navigable by pontoon boats, bass boats and similar recreational vessels for approximately 12 miles. Bridges at US Highway 72 (Shoal Creek mile 2.4 with a vertical clearance of 14.6' at normal pool) and County Road 47 (Shoal Creek mile 8.2 with an estimated vertical clearance of 6') limit navigation by the larger cruisers and sailboats. Shoal Creek is popular with canoeists well into Tennessee. The other major tributaries are generally navigable for approximately one mile by powered recreational vessels.

TVA's dam reservations at Wilson and Wheeler include public lake access facilities. With the exception of the City of Florence's Veterans Park which was formerly part of Wilson Dam reservation there are only two other small parcels of public land on Wilson, Lock Six boat ramp and a small state-operated boat ramp at Marina Mar. All other shoreline property on Wilson and its tributaries is privately owned down to the water line. The shoreline is characterized as developed residential and includes 1,822 active private water use facility permits according to the Watershed Team records. Each landowner adjoining the water has rights of private water access. The result is that the recreating public has very limited opportunities for viewing and accessing Wilson Reservoir unless they own a residential lot or a boat.

Onsite meetings were performed by Amy Robinson (OP-F, Project Manager) with TVA personnel throughout the application processing for the proposed project. Two pre-application meetings were held concerning the project (See Appendix A for MFRs) and two subsequent meetings with the applicant (See Appendix C for MFRs). Also, an onsite inspection of the project site was conducted on the TVA navigation boat, The Sideview, on 15 February 2006, to inspect the project site, potential navigation and recreational impacts, and water depths (See Appendix J for MFR with site photos). See Appendix D for aerial photos of project site and Wilson Lake at the project vicinity.

The TVA website (<http://www.tva.com/environment/ecohealth/wilson>) provides information concerning Wilson Lake. A copy of the website information concerning Wilson Reservoir, ecological health rating, swimming advisories, fish consumption advisories, sport fishing ratings, sportfish survey results, and water release information is found in Appendix K. The website also contains information concerning dissolved oxygen, chlorophyll, fish community, bottom life, and sediment levels. Waterbodies where fish tissue has levels of contamination that pose a higher than acceptable risk to the public are posted and the public advised of the danger. The project site is not known at this time to create a public safety issue for contamination. There are no swimming advisories and/or fish consumption advisories in Wilson Reservoir. The website information indicated that the overall ecological health condition in Wilson Reservoir was rated fair in 2004. The reservoir ratings for Wilson have fluctuated in a pattern that generally follows reservoir flow conditions. Like most Tennessee River mainstem reservoirs, Wilson tends to rate better in wet years and worse in dry years.

Town Creek originates in Lawrence County and flows generally northwest before joining the Tennessee River at Mile 272.0L. The headwaters of Town Creek flow primarily through rural, sparsely populated, agricultural lands. The proposed project is located within the embayment area of Wilson Reservoir; thus, the project is located within the backwaters of Wilson Lake and experiences rise and fall of the pool elevations. The normal summer pool (NSP) elevation of Wilson Lake is 507.5' and the normal winter pool (NWP) elevation is 504.5'.

The proposed project site for development would be located on the east bank of the Tennessee River (left descending bank) and embayment of Town Creek. Land access to the marina would be from River Road from Muscle Shoals/Florence, Alabama area. The majority of the upland portion of the project site is owned by the applicant (private ownership). The upland portion of the project site has been disturbed in the past from earthen excavation and borrow activities. Also, the project site is the location of the old, abandoned The Point Marina and Restaurant. Marina A would be constructed within the same location as the previous marina facilities, but would involve extension of the proposed harbor limits with additional boat slips. The existing pier and boardwalk, previously used for The Point Marina, would remain in place for docking at the new onsite restaurant. An existing boat ramp is located on the property, but is under lease by the county. The

boat ramp would remain under lease to the county until August 2008. After this date, the applicant indicated that the ramp would be operational, but does not guarantee that it would be left open for the public use.

Pictures of the project site are found in Appendixes A, C and J.

3.3. Physical/Chemical Characteristics and Anticipated Changes. The relevant blocks are checked with a description of the impacts.

(x) substrate – The Tennessee River and Town Creek at the project site, consists of a deep, slow-flowing pool habitat with accumulated sediment and gravel covering the lake bottom. The only substrate impacts would be from the proposed dredging activity to create an access channel to the marina. The dredging would be a 100' wide channel by 800' long. The area would be dredged to bottom Elevation 495.5', which is 12' below the NSP elevation 507.5' for Wilson Lake and 9' below the NWP Elevation 504.5'. The area would be excavated for deeper water depths, but it is expected that the removal of sediments would result in the same substrate conditions. Maintenance dredging is expected to occur at some point in the future to remove any accumulated sediment build-up within the access channel. However, it is not expected to change the bottom substrate. According to TVA's website information, Wilson Lake has no state advisories against swimming and there are no fish consumption advisories. Because there have been few industrial activities in the vicinity that may have contaminated sediments, there is no reason to suspect that sediments are contaminated with PCB's or any other recognized environmental contaminant.

(x) currents, circulation or drainage patterns – The proposed work is not expected to impact the current patterns of the Tennessee River and/or Town Creek.

(x) suspended particulates, turbidity - Turbidity levels are expected to increase during construction of the access channel. The applicant proposes to perform the dredging by a clamshell from the shoreline and load the material on a truck and haul it off to an upland disposal site. Turbidity levels would be minimized by requiring the applicant to perform the dredging during the winter drawdown period when water levels are lower. Therefore, if the DA permit is issued, it is recommended to condition the permit to perform the dredging activity during winter drawdown period. Also, any increase in turbidity levels would be temporary and would quickly dissipate within the river currents.

Maintenance dredging would produce a chance for increased turbidity levels. However, as with the original proposal, the dredging should be performed during winter drawdown periods. This office

would be contacted at least 30 days prior to maintenance dredging activities to commence. It is recommended, if issued, the DA permit should incorporate these maintenance dredging measures.

(x) water quality (temperature, color, odor, nutrients, etc) – Water quality could be impacted from the construction activities from increased turbidity, erosion, and runoff. The Water Quality Certification was issued by ADEM on 13 April 2006, for the proposed work with special conditions to avoid and/or minimize water quality impacts (See Appendix E), indicating that the proposed work would not violate state water quality standards. In addition, the applicant has proposed several measures that would minimize water quality impacts such as: consult with the Colbert county health department regarding septic systems as required by county codes, the marina would provide sewage holding tank pump out services, fueling operations shall comply with required regulations, the marina would comply with The Alabama-Mississippi Clean Marina Guidebook and the TVA Clean Marina Guidebook; prepare a Spill Control and Countermeasure Plan (SCCP) for the project, and employ Best Management Practices (BMPs) when possible. The applicant indicated the BMPs include performing the work during low water conditions or at normal winter pool levels, place riprap from the shoreline, install silt fencing and/or turbidity curtains to minimize sedimentation and turbidity, and plant native plants and trees. In addition, the proposed bank stabilization plan would stabilize an additional 1,065' of severely eroding riverbank, which is expected to improve the water quality in this area by minimizing the sediment entering the water. It is recommended, if the DA permit is issued, that it is conditioned that the applicant develop and implement a Spill Prevention, Control, and Countermeasures Plan (SPCCP) to comply with Environmental Protection Agency's regulations prior to operation of the marina.

(x) flood control functions – The applicant would be responsible for designing the marina facilities to accommodate the floodwater velocities, volume and elevation changes. The dock equipment should be designed to accommodate the elevational changes and debris associated with flood events. It is recommended that the DA permit, if issued, be conditioned to advise the applicant of the dock and marina design conditions during flood events. Continuing maintenance activities as part of normal harbor operations would remove debris from the Tennessee River and/or Town Creek flow.

(x) storm, wave and erosion buffers – Approximately 1,930' of riprap is existing along the shoreline that was placed for bank stabilization. However, the applicant proposes to stabilize the remaining 1,065' of shoreline with riprap. It is recommended to condition the DA permit, if issued, that the applicant consider planting trees along the top of the riprap for additional bank stabilization efforts and to provide bio-engineering stabilization opportunities where available.

(x) baseflow – The baseflow of Town Creek and/or the Tennessee River is not expected to be impacted from the proposed project.

3.4. Biological Characteristics and Anticipated Changes. The relevant blocks are checked with a description of the impacts.

(x) special aquatic sites (wetlands, mudflats, pool and riffle areas, vegetated shallows, sanctuaries and refuges, as defined in 40 CFR 230.40-45) – The proposed project is located within the backwater of Wilson Lake. Therefore, the project site is not considered a special aquatic site. However, there is a shallow water habitat area near the proposed dredged area located opposite side of the marina adjacent to an island. The applicant has designed the plans to avoid dredging the shallow water area.

(x) habitat for fish and other aquatic organisms – Physical habitat of the project site appears adequate to support the type of fish species common in backwater/pool systems. No rare, threatened, or unusual fish species are expected to occur at the project site. Typical fish species expected at the site include largemouth bass, smallmouth bass, bluegill sunfish, redear sunfish, longear sunfish, redbreast sunfish, warmouth, catfish, freshwater drum, striped shiner, brook silverside, longnose gar, spotted sucker, and gizzard shad. TVA's website information includes a Sport Fishing Index Rating (See Appendix K) to help anglers decide where they have the best chance of catching their favorite types of fish and reflect fishing quality for different species. The index rating for Wilson Lake in 2004 indicates that black bass rated 38, largemouth bass rated 38, smallmouth bass rated 42, and spotted bass rated 26.

The proposed work would impact the habitat for fish and other aquatic life temporarily during construction of the access channel. However, these impacts are expected to be minimal because the type of species located along this stretch of the Tennessee River is typical of impounded conditions and the dredging is temporary in nature. In addition, it is expected the same benthic macroinvertebrate would be found in the access channel location as the entire project site. The rock bank stabilization and the shading created by the overwater structures, could actually increase the biological productivity and aquatic biomass over a period of time.

(x) wildlife habitat - The proposed work would involve the transformation of an upland area to residential homes and associated marina facilities. The project site, on the private land, has been impacted in the past from previous earth moving activities and the location of the former The Point Marina and Restaurant. Most all trees and vegetation has been removed from the site and presently consists of an open, bare exposed soil. During previous onsite inspections, the private land area was still under construction by earth moving activities. Therefore, the impact to wildlife habitat on the private land would be very minimal. This area and Wilson Lake are undergoing a lot of development, which is expected to continue to result in the loss of other undisturbed properties. This area is especially expected to develop due to the construction of the

adjacent golf course and other residential developments. There are no unique wildlife habitat features of the area affected by the permits. Because upland development would take place whether or not the TVA and DA permits were issued, the proposed action would not contribute to any ongoing wildlife habitat losses in the area. One commenter of the proposed project indicated that the project would affect the shallow water habitat for birds and the Alabama Birding Trail. Shallow water areas are located adjacent to an island near the dredging and project vicinity. However, the applicant has designed the plans to avoid the impacts to this shallow water area. Also, TVA is a sponsor of the Alabama Birding Trail and they indicated that the proposed work would not impact the marsh area that is on the birding trail. The marsh area that is listed on the birding trail is located approximately one mile upstream of the marina site and is not accessible by boat. See Appendix Q for information and maps of the Alabama Birding Trail.

(x) endangered or threatened species - A literature search has been conducted regarding endangered and threatened species by the USFWS. No species listed as endangered or threatened would be affected by the proposed construction activities. See letter from USFWS in Appendix F.

(x) biological availability of possible contaminants in dredged or fill material – According to TVA's website information, Wilson Lake has no state advisories against swimming and there are no fish consumption advisories. Accordingly, there is no evidence that the site is contaminated by PCBs or another recognized environmental contaminant.

3.5. Human Use Characteristics and Anticipated Impacts. The relevant blocks are checked with a description of the impacts.

(x) existing and potential water supplies; water conservation – The nearest existing water intake is operated by Southern Reclamation for an industrial intake at Tennessee River Mile 262.0L. This intake is located approximately 10 miles downstream of the project and it not expected to be impacted from the proposed work. There are no municipal water intakes located downstream of the proposed work to the Wilson Lock and Dam. Therefore, the proposed work is not expected to impact any existing water supplies and/or water intakes.

(x) water-related recreation – The proposed project is expected to create a very large opportunity for water-related recreation for Wilson Lake, visitors to the area, Colbert, Lauderdale, and Lawrence Counties, and other surrounding counties. The project would provide 398 public boat slips, with 13 slips designated as transient docking to benefit all boaters using the Tennessee River in this area. Transient day use slips in this area of the lake are essentially non-existent. A public marina onsite would provide typical marina services, such as fuel, sewage pump-out, ship/convenience store and public restroom services. Currently, diesel and wastewater pump-

out are not available in the vicinity of the project and unleaded fuel is available only at several other marinas over 10 miles away from the proposed marina. The project would provide a restaurant with guest dockage and support services. A public boat launching ramp is located at the project site. However, the boat ramp is under lease by the county for a public ramp until August 2008. At that time, the applicant has indicated that the lease would need to be renegotiated. He indicated the boat ramp would continue to be operational, but does not guarantee that it would be a public ramp. In addition, the applicant indicated that the marina may rent boats, canoes, and kayaks, which would provide the general public access to the water. The applicant expects that the canoe and kayak rental would be greatly utilized downstream on Town Creek. The applicant indicated that there are waiting lists for docking services in other marinas along the Tennessee River and especially on Wilson Lake. The applicant provided a Market and Feasibility Study for the proposed project that provides information on the occupancy and availability at other marinas along the Tennessee River (see project file). TVA's Recreational Assessment of the project indicated that the chosen location is perhaps the last place that a sizable area of protected water is available and the data indicates a growing market for such facilities in the area. There are no other public marina services within 8 river-miles of the proposed project and/or transient docking, diesel, and pump-out services. There are no other marinas upstream of the proposed project and the Wheeler Lock and Dam. Downstream of the project site, the closest commercial marinas are Marina Mar and Emerald Beach, which are located on Shoal Creek at Tennessee River Mile 265.0R, then J&J Marina located at Tennessee River Mile 260.0L. A couple of private marinas are located downstream of the project, but are private membership only. Therefore, no marinas and/or marinas with all of the docking facilities, transient docking, launching ramp, pump-out services, restaurant, etc., are located in the vicinity of this project. Therefore, this project would provide enhanced water-related recreational opportunities for the boaters along the Tennessee River. Boat crowding was raised as an issue in public comments. This is addressed below under "navigation."

(x) aesthetics – There would be a conversion of the open area to a new residential development with marina; thus, impacting the natural aesthetics of the site. However, the existing project site has been previously disturbed and utilized as a commercial marina in the past. However, the former marina was much smaller in size than the proposed marina. The upland portion of the site has been left as a bare, exposed soil area. See pictures of the project area in Appendix A and Appendix J, and aerial views of the site in Appendix D. It is expected that the new development could increase litter in the lake and upland areas. However, the applicant has indicated that they would have a trash pick-up program. The continual growth of Wilson Lake area near Muscle Shoals and Florence make it almost inevitable for the loss of property for residential and commercial development. Also, with the construction of the new golf course nearby and increased access to other properties, it is expected that other developments (residential and commercial) would continue to expand in this area. The applicant indicates that the new marina and residential development would be an upscale complex. The applicant is designing many extras

into the project in order to create an upscale and aesthetically pleasing project. The applicant provided an artist rendering of the proposed marina and residential area (See Appendix L). It is expected the project would provide an aesthetically pleasing view for the new residents of the project. As depicted by the numerous people who want to live near the water, some people prefer the views of a “lake front” home. Also, it is expected that the applicant would provide landscaping around the upscale residential and commercial properties to enhance the visual appearance. If the marina project were not constructed, the proposed site could be developed with residential and/or commercial developments. Other upland developments may or may not have to meet strict zoning ordinances and/or would create similar, if not more, aesthetic impacts than the proposed marina harbor and residential homes. These upland developments could occur without a DA permit. The proposed mitigation measures would provide bank stabilization for an additional 1,065’ of eroding riverbank section, provide trash control for pick-up of litter, provide native tree species plantings, maintain natural areas to the extent possible, and encourage public recreational use. Some adjacent property owners have commented adversely concerning the large size of the project. However, the applicant has addressed the need of the large size of the project through research of the market and feasibility study of the marina. To ensure the large size of the marina would be necessary, the TVA and DA permits, if issued, would be conditioned that Marina B could only be constructed upon an 50% occupancy of Marina A’s 70’ and over boatslips are verified by signed contracts on 26 of the 52 proposed slips.

(x) traffic/transportation patterns – The proposed project is expected to increase traffic in the area. However, the land access to the marina would be off of the River Road/ Couty Road 79. The intersection of County Road 79/River Road and Lakewood View Drive is the location of a large sign advertising the former The Point Marina and Restaurant, a sign that the applicant states has been there many years. Also, the applicant indicated that the impact on public roads has been mitigated as Colbert County has recently improved the adjacent main road for access to the new Robert Trent Jones Golf Course built by the Alabama Retirement Systems. These upgrades to the road are designed to enhance and bring into Colbert County enhanced economic benefits. In addition, the applicant would have to obtain approval from the Alabama Department of Transportation and/or county highway department for any revisions to the highway system for the development and would have to meet the standards for traffic management and zoning.

(x) energy consumption or generation – It is not anticipated that the proposed project would have any notable impacts on energy consumption or generation.

(x) navigation – The proposed project is located within the impoundment of Wilson Lake on the Tennessee River. TVA prepared a Navigation Assessment for the proposed project (See Appendix M). The assessment stated that while there are several commercial

terminals on Wilson Reservoir, most of the commercial traffic on Wilson Reservoir passes through the reservoir to other pools and waterways. In 2004, about 12.5 million tons of commercial cargo were transported by barge on Wilson Reservoir. Town Creek is not commercially navigable. At the confluence of the Tennessee River and Town Creek, where the proposed development would occur, the navigation channel is the full width of the reservoir. In other words, the reservoir is of sufficient depth to accommodate a commercial towboat and its barges (called a tow) at any point between the banks in the vicinity of the Town Creek. This is true for the length of Wilson Reservoir. The actual sailing line for commercial traffic hugs the opposite shoreline (north shore or right descending bank) at mile 272 where Town Creek enters the Tennessee River. The sailing line is the path that commercial tows typically take as they move up- and downstream, and is as much of a straight line as possible because straight-line distances are the most fuel efficient. The Tennessee River is over a mile wide at this location and there is sufficient room to accommodate both commercial and recreational traffic. There are no aids to navigation on the south shoreline of the reservoir in the vicinity of the proposed development on the main river side. A two-mile recreational channel into Town Creek is marked by secondary channel buoys from Hog Island to the county boat launch ramp at the former Town Creek marina. There are no other navigation aids in the Town Creek embayment. There are two potential direct impacts to navigation should the project be constructed and two possible indirect impacts. Direct impacts include aids to navigation and harbor limits. Indirect impacts include boating safety and congestion, and lock utilization.

TVA indicated that for a marina of this size, they would normally restrict the harbor limits to the extent of the marina structure, and that will be the case for Marina B should the marina be permitted. The applicant has requested harbor limits that exceed the dimensions of Marina B in order provide a “no-wake” zone surrounding the facility to accommodate mooring of transient boats greater than 80’ in length (the size of the largest available slip). TVA will allow temporary moorage – not to exceed thirty days – for boats greater than eighty feet on the outside of the upstream side of Marina B. This is the most protected side of this structure and the most convenient to onshore facilities, and with an overall length greater than 600’, should provide adequate mooring for larger vessels. An exception would be made for Marina A’s harbor limits.

The configuration of Marina A in the inner harbor lends itself to harbor limits encompassing the area adjacent to the structure in which the fuel dock, boat launch ramp, transient docks, and courtesy dock for the restaurant are located. This is a sensible location for a “no-wake zone”. In addition, the Marina A structure has slips on the outside of the structure on the east side. These are 70’ slips, so the harbor limits on this side of the structure will extend 110’ beyond the slips to accommodate the recommended 1.5 boat-lengths fairway for maneuvering and create another “no-wake” zone. Lastly, the area on the west side of the Marina A structure will become an area with no outlet with the construction of the marina, and it is fairly shallow. It is not unreasonable to make this a “no-wake” zone, so harbor limits will extend from the southwest corner of Marina A in a westerly direction to the shore.

If the marina is constructed as proposed, no new navigation aids would be required. TVA maintains the marked recreation channel at the entrance to Town Creek. There are no anticipated changes necessary to these markers.

Boating congestion and associated boating safety concerns are an indirect impact of the proposed development. If the marina is constructed as proposed, additional boaters can be expected to use the Town Creek embayment and the passage to the Tennessee River. TVA recreation specialists indicate that the impact to boating numbers as a result of building the proposed marina will not be especially substantial and that there is a growing market for boat slips on Wilson, but boating safety should always be a concern for the public, particularly since law enforcement agencies responsible for marine safety (TVA Police, U.S. Coast Guard, Alabama Marine Police of the Department of Conservation and Natural Resources) are not able to patrol all of the waters in their jurisdictions all the time. These agencies rely heavily on public involvement. The commentators of the proposed marina/ users of Wilson Reservoir are fortunate in that members of the concerned public have formed a Lake Watch program with the assistance of the TVA Police Western Division. Those concerned with boating safety in the Town Creek embayment or the general vicinity are urged to join the Shoals Area Lake Watch program (more information is available at <http://www.tva.gov/abouttva/tvap/lakewatch>) and, as always, if they see a boater operating in an unsafe or suspicious manner, they may write down the boat registration number and report the activity to the TVA Police at 256-386-2444.

The State of Alabama is also addressing the boating safety issue. The Roberson/Archer Act of 1994 requires that every person over the age of 12 who operates a motorized vessel (including PWC) on the waters of Alabama must first obtain an Alabama Boater Safety Certification or possess comparable USCG certification.

In light of the issues addressed in this section, Navigation specialists find that if the marina is constructed and the following conditions are met, there will be no significant impacts to navigation.

- The applicant is advised that this facility will be located on a recreational and commercial waterway and may be subject to wave wash from passing vessels and possible collision damage.
- The marina will incorporate an acceptable method of wave attenuation in the marina design to mitigate possible wave wash damages.
- Marina structures will be lit and marked in accordance with U.S. Coast Guard guidelines.
- Harbor limits for Marina A should extend from the west shoreline to the southwest side of the marina structure and extending beyond that structure an additional 110' to the southeast for a total distance of 1200' from normal summer pool elevation of 507.5' above mean sea level (msl) as shown on the master plan. The harbor limits would then extend 870' to the northeast to a point 110' off the northeast corner of Marina A, and then 737' in a northwest direction to the point.

- Harbor limits for Marina B will be defined by the structure of the facility as shown in the master plan diagram. No “no-wake” zone will be permitted outside the confines of Marina B, although transient mooring for vessels, particularly for those greater than 80’ in length, will be permitted (not to exceed 30 days per vessel per visit) on the upstream side of the facility.
- Harbor limits for Marina B are contingent upon a 50% occupancy of Marina A’s 70’ slips to be verified by signed contracts on 26 of the 52 slips. If Marina A is not built and occupied to this extent, harbor limits will not be granted for Marina B.
- Putnam Properties, Inc., will be responsible for installing and maintaining the no-wake buoys, including maintaining proper placement. They must remain legible to the boating public and must not be placed outside the areas defined by the permitted harbor limits.
- All floating structures should be securely anchored to prevent them from floating free during a flood event.
- Any fixed structures should have a floor elevation at least two feet above the normal summer pool elevation of 507.5’.

Therefore, it is recommended that the DA and TVA permits, if issued, are conditioned with the above conditions to minimize navigation impacts.

(x) safety – It is expected that the infrastructure is designed to accommodate anticipated flood water elevations. If issued, it is recommended that the DA permit be conditioned to advise the applicant of the design criteria for flood events. Also, TVA Navigation staff recommended conditions that would minimize the boating and navigation impacts in the area. Also, the proposal involves the maintenance of an existing 2,000 gallon gasoline UST and installation of two new 8,000 gallon AST. A SPCC plan will have to be prepared and certified by a professional engineer (40CFR 112).

(x) air quality – Emissions that are expected to result from the project would be temporary from construction equipment and dust. However, since the majority of the project has been cleared, it is anticipated that the proposed activities would not exceed de minimus levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR part 93.153 (See Section 5.3). While it is expected that construction could increase fugitive dust in the vicinity of the project during dry periods, this impact would only be temporary and could be minimized by applying water on the construction site.

(x) noise – Construction of the work would create some noise impacts. However, it is expected that the construction activities would be performed during the daylight hours, would be temporary, and would be performed within normal ranges for construction equipment.

(x) historic properties and cultural values – AHC responded that the proposed work would not likely impact any historic properties and cultural sites eligible for listing in the National Register of Historic Places (See Appendix F).

(x) land-use classification – Colbert County is the responsible agency for local zoning and land-use classification of the proposed project site; therefore the project would have to comply with the county's local zoning regulations. Also, the project site was the location of the former The Point Marina and Restaurant.

(x) conservation – The project would impact an approximately 10-acres in size of private land, of which, most all has previously been disturbed from past construction and/or earth moving activities.

(x) economics – The applicant provided a letter stating the beneficial economic impacts for the employment opportunities anticipated to be created by the proposed project (See Appendix N). The letter indicated that the marina construction would employ 30 jobs for 4-6 months. Also, the marina would require 3 permanent jobs in the off-season and 8 jobs in the peak season. The ship store would employ approximately 6 positions and the restaurant would require at least 20 jobs. Maintenance of the marina facilities would employ 4 permanent positions. In addition, the construction of the residential homes would require at least 40 jobs for an extended period of time. Therefore, the project would provide a large economic benefit to the local workforce, contractors and subcontractors developing the site, and from the sale of materials for the project. In addition, to the positive employment benefits, the new project would provide immediate and short-term positive economic impacts of city and county development taxes, adequate facilities taxes, building permit fees, water and sewer improvements, and initial investment for a total of immediate financial impacts of an estimated \$2,000,000. Therefore, a large economic increase to the tax base of the Colbert County area would be realized. It is anticipated that the project would have positive annual economic impacts to the area of permanent job creation, part-time job creation, tourism, sales tax revenue, and property tax revenue. Other economic benefits resulting upon the project completion could be realized from fuel sales, retail from ship store, and restaurant. With the addition of over 80 upscale residences, retail sales in the north Alabama area are expected to be positive distributed among restaurants, fuel, grocery stores, and specialty shops, etc., thus, producing a large economic benefit to the area's existing and future shops. It is expected that the proposed work would also economically benefit the applicant from the sale of the condominiums and docking facilities. Also, it is expected that this project will help create a unique visitor opportunity for this area of Wilson Lake, which would increase tourism in the area and provide an economic boost to the area.

(x) food and fiber production – It is not anticipated that the proposed project would have any impacts on food and fiber production since it is not currently utilized for food or fiber production.

(x) general environmental concerns – While a marina could not be developed without requiring a DA or TVA permit, the proposed project site could be developed with residential and/or commercial development without either approval. Therefore, other projects would also create impacts to wildlife, water quality, conservation, aesthetics, noise, land-use, traffic, etc. Some impacts from the development may or may not provide mitigation measures to offset these impacts as required from the proposed work. In addition, some of these impacts could be greater than those of the proposed project such as aesthetic values and provide valuable bank stabilization, all while producing a number of public benefits through the increased water-related recreation opportunities. Other developments may or may not provide the economic benefits for the area compared to the proposal.

(x) mineral needs – It is not anticipated that the proposed project would have any impacts on mineral needs.

(x) consideration of private property – Several objections were received from adjacent property owners concerning the impacts of the proposal to the area such as by the large size of the marina.

(x) floodplain values – TVA provided an analysis of the floodplain values concerning the proposed work by letter dated 15 March 2006 (See Appendix F). TVA stated that the proposed marina operations, dredging, and riprap would involve construction within the 100-year floodplain. Consistent with Executive Order 11988, these are considered to be repetitive actions in the floodplain that should result in minor impacts provided the excavated material is spoiled outside the floodplain. According to the plans, all excavated material would be spoiled outside the floodplain and above the TVA Flood Risk Profile elevation. From the standpoint of Flood Control, TVA has no objection to the proposed project provided the following conditions are included the TVA and DA permits, if issued:

- * All floating facilities will be securely anchored to prevent them from floating free during flood events.

- * The floor elevation of the fixed boardwalks will be a minimum of 1.5 feet above the NSP elevation of 507.5'.

- * For purposes of shoreline stabilization, all portions will be constructed or placed, on average, no more than two feet from the existing shoreline at NSP.

- * The dredge spoil material will be disposed of and contained on land lying above the 508.5' contour. Every precaution should be taken to prevent the re-entry of the spoil material into the reservoir.

3.6. Cumulative and Secondary Impacts. Consideration of cumulative effects requires a broader perspective than examining just the direct and indirect effects of a proposed action. It requires that reasonably foreseeable future impacts be assessed in the context of past and present effects to each important resource. One of the most important aspects of cumulative effects assessment is that it requires consideration of how actions by others (including those actions completely unrelated to the proposed action) have and will affect the same resources. Cumulative environmental effects for the proposed facilities were assessed in accordance with guidance provided by the President's Council on Environmental Quality (USEPA, EPA 315-R-99-002, May 1999). This guidance provides a process for identifying and evaluating cumulative effects in NEPA analyses.

Scoping: The event having the greatest influence on the aquatic environment in the vicinity of the proposed site to date was the completion of Wilson Lake, transforming this section of Tennessee River into an impounded stream. According to the District's database, past DA permits issued in the past in the vicinity of the project mainly involve bank stabilization, utility line crossings and private dock structures. Several other small jurisdictional determinations have been made by OP-F for wetland impacts for other developments in the vicinity. An Individual Permit application is currently being processed for the Doublehead Resort, located across the Town Creek embayment from the proposed marina. This application is for seven private residential lots with piers. Another preapplication meeting has been held with Doublehead Resort for the construction of additional private residential lots with piers, two community docks, and dredging for boat access channel. No other permitted activities have occurred in the immediate vicinity of the proposed project.

For purposes of cumulative impact assessment, the spatial boundary (scope of work) has been broadened to consider effects of the work and its affects to others. The spatial boundary considered for regulatory purposes is normally in the general area of the proposed work but is broadened in this case because of the requested real estate instrument. According to the applicant, the site of the activity was chosen on its proximity to the Tennessee River and the site of the existing The Point Marina and Restaurant, and adequate space for a marina this size. Thus waterborne traffic to and from the site could reasonably be expected to utilize the Tennessee River for some distance downstream and upstream of the site. Secondary impacts expected to result from the new project would be providing enhanced water-related recreation and residential opportunities in an area undergoing development (residential, commercial, industrial, and highway improvement). It is anticipated that the new marina and residential development could further encourage additional development. However, this area is already experiencing growth and development of residential and commercial facilities. In addition, nearby highways were just recently constructed to accommodate increased traffic in the area, especially for the new Robert Trent Jones Golf Course, which is located adjacent to the proposed marina. The continued growth of the area makes the conversion of undeveloped property into commercial and/or residential developments virtually inevitable, especially in an area where a property owner could possibly

benefit economically from the sale of the land. Cumulative impacts could result from permitting the proposed work, in that other phases of this project could be constructed. However, the proposed project utilizes almost all of the property and is constrained in size by property lines, Town Creek, and the Tennessee River. Also, this area is currently experiencing development, so any additional construction would be consistent with the existing land use and expected to be constructed in accordance with any other federal, state and local regulations. This project and any other proposed projects would be evaluated on a case-by-case basis for a DA permit if waters of the U.S. were proposed to be filled.

Projecting the reasonably foreseeable future actions is difficult at best. Clearly, the proposed action is reasonably foreseeable. However, the actions by others that may affect the same resources are not as clear. Projections of those actions must rely on judgment as to what is reasonable based on existing trends and, where available, projections from qualified sources. Reasonably foreseeable does not include unfounded or speculative projections. In this case, reasonably foreseeable future actions include:

- The proposed marina and residential/commercial development requesting to expand the development. The residential/commercial development would likely take place whether or not the marina permits are issued,
- Other existing docking facilities and residential/commercial developments in the vicinity requesting to expand their development. This is primarily affecting undeveloped land in the area. The proposed permits are not affecting unique or uncommon undeveloped lands, and would not contribute to these ongoing impacts,
- Increased recreational navigation traffic generated from this and future marinas in the area,
- Increased traffic and transportation patterns generated from this project, and construction and maintenance of these new highways,
- Continued growth in population and residential development,
- Continued growth of commercial development,
- Continuation of existing land use patterns in the area and/or additional development of the area,
- Continued increase in utilization of the fishery resource.

Issuance of marina permits would not likely adversely affect these ongoing impacts on natural resources in the area. In most cases, these activities would occur whether or not the permits were issued. In addition, continued application of environmental protection requirements such as those under the Clean Water Act, and implementation of various programs to deal with non-point sources of water pollution and to restore degraded environments would mitigate the ongoing impacts of these activities.

4.0 Alternatives

4.1. Introduction. This section discusses alternatives as required by 33 CFR 320.4(a)(2). The relevant environmental issues identified in Chapter 3.0 were used to formulate the alternatives. The alternatives that were given detailed consideration are listed in the following section.

4.2. Description of Alternatives. Only reasonable alternatives have been considered in detail, as specified in 40 CFR 1508.14(a). As mentioned in paragraph 1.3 above, the alternatives that are available to the Corps and were given detailed consideration are: 1) no federal action, 2) issue the Section 10 and 404 permit as proposed by the applicant, or 3) issue the Section 10 and 404 permit subject to special commitments and conditions. The applicant prepared a Market and Feasibility Study for the proposed project that discusses the evaluation of the need for the marina, market availability of boat slips on Wilson Lake and other Tennessee River reservoirs, demand and vacancy, sales, and location of the marina (See project file for study). A marina would be defined as a water dependent project in 40 CFR 231.10(a)(3) and clearly requires complete access to a navigable and public waterway. The proposed site has been selected to meet the project purpose and need, is the least environmental damaging and the most practicable alternative because it is maybe the only location available on Wilson Lake to accommodate a marina this size, and is available and feasible considering cost, existing technology, and logistics based on the overall purpose of the project.

a. No Action. This alternative would involve denial of the applicant's request for a DA and TVA permit to perform the proposed work. No Action would also result if the applicant withdraws the application for a DA and TVA permit. Under this alternative, the proposed work would not be performed. However, the no-action alternative for this proposal would not preclude other land-transforming activities with the potential for greater environmental impacts from occurring that do not require DA and/or TVA approval.

b. The Applicant's Proposed Action (as described in Public Notice 06-10, Appendix B). The proposed work consists of the construction of a commercial marina, Shoals Landing Marina, and its associated facilities at the subject location. The new marina facilities would include construction of 398 public boat slips, with 13 slips designated as transient docking. Marina A would be constructed within the same location as the previous marina known as The Point Marina, but would involve extension of the proposed harbor limits with additional boat slips. Marina A would involve a total of 315 public slips, 13 transient slips, and a ship store with fuel dock. The existing pier and boardwalk, previously used for The Point Marina, would remain in place for docking at the onsite restaurant. Marina B would involve a total of 83 boat slips within new harbor limits. To provide adequate water depth for the marina, dredging has been proposed to create an access channel. The dredging would be a 100' wide channel by 800' long. The area would be dredged to bottom Elevation 495.5', which is 12' below the normal summer pool

(NSP) Elevation 507.5' for Wilson Lake and 9' below the normal winter pool (NWP) Elevation 504.5'. A 10' wide undisturbed buffer would be maintained between the dredged area and the NSP shoreline. The applicant designed the plans to avoid dredging a shallow water area near the island shown on the plans. The material would be dredged by a clamshell and loaded on a truck and hauled off to an upland disposal site. The disposal site is located within an existing excavated/borrow area near the project site, as shown on the plans. Approximately 1930' of riprap is existing along the shoreline that was placed for bank stabilization. However, the applicant proposes to stabilize the remaining 1,065' of shoreline with riprap. A 6' wide fixed boardwalk would be constructed along the entire length of the shoreline. The boardwalk would extend lakeward various distances but extend out a maximum of 20' from the NSP shoreline. An existing boat ramp would be left in place and remain open for public use.

The public marina activities would be supported by typical marina services, such as fuel and sewage pump-out services, a restaurant, and ship store. The upland development would involve three condominium buildings for residential homes.

The purpose of the proposed work would be provide enhanced recreational and water-related opportunities on this area of Wilson Lake by providing a public marina, especially with slips large enough to accommodate larger-size boats.

c. Other Locations for the Marina. In order to meet the applicant's needs and desire for the proposed project, this alternative would involve looking at other locations along the Tennessee River on Wilson Lake. The proposed marina area would have to be adequate size to fulfill the applicant's purpose, economically viable, provide adequate water depth for navigation, create a safe area to protect vessels from wave wash, and not create a navigation hazard for commercial and/or recreational facilities.

d. The Applicant's Proposed Action with Special Conditions. This alternative would authorize the proposed work as stated in b. above with special conditions recommended to avoid, minimize, or mitigate the environmental impacts. In accordance with CFR 320.4(r), review of the proposed action has revealed mitigation measures which would avoid and/or minimize the environmental impacts of the proposed action to the extent possible. Recommended mitigation measures and/or special conditions to minimize environmental impacts for the proposed action are listed in Section 5.6.

4.3. Comparison of Alternatives.

a. No Action. With this alternative, the proposed work would not be performed and would not impact Town Creek and/or Tennessee River. The applicant's proposed marina with associated lakeside residences and economic benefit to the area would not be realized. Thus, the impacts and benefits associated with the proposed action would not occur. However, this tract of

land could be developed by other activities not requiring DA and/or TVA approval, with resulting adverse impacts that could be similar or greater than those associated with this proposal.

b. The Applicant's Proposal. This alternative would result in the construction of the commercial marina with associated facilities and residential homes. The marina would involve a large area of the Town Creek embayment and another portion of the Tennessee River that is considered public waters. However, the marina would be a public, commercial marina, which would serve a large number of boaters in the area and transient boaters. Other impacts would involve turbidity during dredging, aquatic habitat, wildlife, and aesthetics. The applicant proposed measures through construction practices and operation and maintenance activities of the marina to minimize the environmental impacts to water quality. Also, the dredging activity has been designed to avoid impacts to the nearby shallow water habitat areas. In addition, existing and proposed bank stabilization along the shoreline would minimize turbidity and sediment entering the waterway. Beneficial impacts would include economic benefits to the applicant and Colbert County and the surrounding areas; bank stabilization to reduce erosion and potential erosion; enhanced water-related recreation opportunities from additional moorage, transient docking, fuel services, pump-out stations, launching ramp, boat and canoe rental, and other marine sales. No impacts to archaeological and/or historical sites would occur from the proposed work. In addition, the work would not impact any threatened or endangered species.

c. Other Locations for the Marina: The area the applicant has deemed necessary for an additional marina is Wilson Lake. Therefore, other locations to be reviewed would be limited to Wilson Lake. This area would have to be adequate size to fulfill the applicant's purpose, economically viable, provide adequate water depth for navigation, create a safe area to protect vessels from wave wash, and not create a navigation hazard for commercial and/or recreational facilities. Commercial marinas would likely not be approved at alternative sites directly on the Tennessee River in this vicinity due to the navigation impacts and shallow water areas. The proposed site of the marina was selected by the applicant due to the previous disturbance from the former The Point Marina, adequate navigation channel, and it creates a safe area to moor boats. Therefore, the proposed site of the project would meet the needs and purpose of the applicant while providing substantial public benefits.

d. The Applicant's Proposal with Special Conditions. Due to the concern of the large size of the marina from the need and demand, the DA and TVA permits would be conditioned to ensure that Marina A would be nearly full prior to construction of Marina B. These conditions are discussed in the sections above and would be included in the DA and TVA permits, if issued. This alternative would authorize the proposed work as stated in c. above with special conditions added to avoid or minimize the environmental impacts (See Section 5.6 for list of recommended special conditions).

5.0. Findings

5.1. Section 404 (b)(1) Determination.

General: The purpose of Section 404(b)(1) of the Clean Water Act is to restore and maintain the chemical and physical, and biological integrity of the waters of the United States through the control of discharges of dredged or fill material. Controls are established through restrictions placed on the discharges in Guidelines published in 40 CFR 230. Since the dredging of the access channel does not involve discharge of dredged or fill material, the Section 404 activities included in the project are limited to bank stabilization measures.

Restrictions on the Discharge: Section 230.10 requires that the discharge meet certain restrictions in order to be authorized. The project is to be evaluated and comply with the following restrictions: (a) there would be no other practicable alternatives to the proposal that would have less adverse impacts on the aquatic environment, (b) the discharge would not adversely impact water quality, violate State water quality and/or toxic effluent standards, or jeopardize the continued existence of a threatened or endangered species as identified under the Endangered Species Act, (c) the discharge would not cause or contribute to the significant degradation of waters of the United States, and (d) the project would be designed in such a manner as to minimize to the extent possible the adverse impacts on the aquatic environment.

Initial Evaluation: An evaluation of the fill material was conducted in accordance with Part 230.61 (See Appendix O). Environmental consequences of the proposed work are primarily related to a reduction in biological productivity from the physical displacement of aquatic habitat. However, the proposed placement of riprap would actually reduce erosion and sediment entering the waterway. The EA did not reveal any practicable alternatives that would have less adverse impacts on the aquatic environment. Since there would be no other practicable alternatives to the proposal, the adverse impacts have been minimized to the extent possible, and no other restrictions have been violated, the proposed work would comply with the restrictions in Section 230.10. In addition, there is no indication that the fill material to be used for the project would be contaminated above background levels. Therefore, the fill material is designated as a Category 5 fill and, in accordance with Part 230.63(a), no testing of chemical-biological interactive affects is required.

Factual Determination: Based on the probable impacts addressed above, compliance with the restrictions, and all other information concerning the fill materials to be used, the proposed work complies with the Guidelines and the intent of Section 404(b)(1) of the Clean Water Act.

5.2. Water Quality Certification. Water quality certification from the state of Alabama, Department of Environmental Management, in accordance with Section 401(a)(1) of the CWA is required for this activity. The required Water Quality Certification was issued on 13 April 2006 (See Appendix E). Therefore, if issued, the DA permit will incorporate the water quality certification.

5.3. Clean Air Act Determination. The proposed project has been analyzed for conformity applicability, pursuant to Section 176c of the Clean Air Act. Due to the nature of emissions expected from the project, it has been determined that the proposed activity would not exceed de minimus levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR par 93.153. Any later indirect emissions caused by the proposed activity are generally not within the DA continuing program responsibility, these emissions cannot be practically controlled by the DA, and, for these reasons, a conformity determination is not required for a permit.

5.4 Environmental Justice. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. Through our public involvement process, we have offered the general public, including low-income and minority populations in the involved community, an opportunity to participate in a decision-making process that could affect their well-being. The proposed activities would only result in minor adverse effects and could increase adjacent property values. Based on direct observation, the project is located in an area that includes low-income and minority individuals. If any impact on minority or low-income populations does occur, it would not have disproportionately high and adverse human health or environmental effects.

5.5. Consideration of Public Comments. The comments received in response to the public notice have been considered and addressed in this Environmental Assessment (EA) and in the decision-making process for a permit.

There were three requests for a public hearing for the proposed work. One request was signed by five other property owners. A public hearing was denied for the work by the District Engineer (DE), LTC Steven Roemhildt, on 22 June 2006 (See MFR in Appendix P). The public hearing was denied based on that all substantial issues surround the proposal were presented and discussed and that the public had a meaningful opportunity to be heard. The DE stated that the public hearing would not provide any additional information that would assist in reaching a final decision on the proposed request. Thus, since it would serve no valid interest, a hearing was denied. The commenters will be advised of the decision.

5.6. Special Conditions to Minimize Environmental Impacts. Recommended special conditions for inclusion in the DA permit to significantly minimize or avoid the potential impacts to the environment follows:

1. The work must be in accordance with any plans attached to this permit. *Justification: Recommended at 33 CFR 325, Appendix A.*
2. A copy of this permit must be available on the site and the permittee must ensure all contractors are aware of its conditions and abide by them. *Justification: Recommended at 33 CFR 325, Appendix A.*
3. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the U.S. *Justification: Recommended at 33 CFR 325, Appendix A and by CHE/R.*
4. You must design the marina infrastructure to accommodate anticipated flood water elevations, velocities, and/or volume changes and securely fastened and/or anchored. The dock equipment should be designed to accommodate the elevational changes and debris associated with the Tennessee River flood events. *Justification: To ensure safety of design criteria of the docks and that they will be maintained.*
5. You must recognize that the proposed structures are located on a recreational and commercial waterway and the possibility that any permitted structures may be subject to damage by wave wash from passing vessels, possible collision damage, and/or high velocities and elevations from flood conditions. The permittee shall not hold the U.S. liable for any such damage. *Justification: Recommended at 33 CFR 325, Appendix A.*
6. You should incorporate an acceptable method of wave attenuation in the marina design to mitigate possible wave wash damages. *Justification: Reduce navigation impacts.*
7. You must install and maintain, at your expense, any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on the authorized facilities. *Justification: Recommended at 33 CFR, Appendix A.*
8. Stone and/or riprap material utilized for fill and/or bank stabilization activities shall be well-graded quarry stone or its equivalent, i.e., clean material free of waste metal products, organic materials, toxic pollutants, unsightly debris, etc. For purposes of shoreline stabilization, all portions will be constructed or placed, on average, no more than two feet from the existing

shoreline at NSP. *Justification: To minimize impacts on water quality and the aquatic environment.*

9. Harbor limits for Marina A should extend from the west shoreline to the southwest side of the marina structure and extending beyond that structure an additional 110' to the southeast for a total distance of 1200' from normal summer pool elevation of 507.5' above mean sea level (msl) as shown on the master plan. The harbor limits would then extend 870' to the northeast to a point 110' off the northeast corner of Marina A, and then 737' in a northwest direction to the point. *Justification: Reduce navigation impacts.*
10. Harbor limits for Marina B will be defined by the structure of the facility as shown in the master plan diagram. No "no-wake" zone will be permitted outside the confines of Marina B, although transient mooring for vessels, particularly for those greater than 80' in length, will be permitted (not to exceed 30 days per vessel per visit) on the upstream side of the facility. *Justification: Reduce navigation impacts.*
11. Harbor limits for Marina B are contingent upon a 50% occupancy of Marina A's 70' slips to be verified by signed contracts on 26 of the 52 slips. If Marina A is not built and occupied to this extent, harbor limits will not be granted for Marina B. *Justification: Reduce navigation impacts.*
12. You will be responsible for installing and maintaining the no-wake buoys, including maintaining proper placement. They must remain legible to the boating public and must not be placed outside the areas defined by the permitted harbor limits. *Justification: Reduce navigation impacts.*
13. Any fixed structures should have a floor elevation at least two feet above the normal summer pool elevation of 507.5'. *Justification: Reduce navigation impacts.*
14. All dredged material must be disposed of in the designated, approved disposal sites on private property lying above the 508.5' contour. If new disposal sites are utilized, you must contact this office prior to disposal for approval. The disposed material must be properly placed and/or stabilized to prevent reentry into waters of the U.S. *Justification: To ensure approved disposal sites are utilized and to minimize impacts on floodplains and water quality.*
15. The dredging activity must be performed during winter drawdown period of Wilson Lake and/or during a time that is not spawning season (April through September). *Justification: To minimize aquatic habitat impacts during dredging.*

16. All disturbed areas must be stabilized as soon as possible after construction to eliminate any erosion or turbidity entering the stream. *Justification: To minimize sediment runoff into the stream.*
17. You must institute and maintain erosion control measures for the life of the project and all disturbed areas must be properly seeded, riprapped, or otherwise stabilized as soon as practicable to prevent erosion and sediments from entering the waterway during construction and after construction. Erosion and sediment control measures must include but not be limited to silt fencing, sedimentation pond, straw bales, riprap, erosion matting, silt curtains, and temporary seeding. *Justification: To minimize water quality, turbidity, and fish and aquatic impacts.*
18. You must develop and implement a Spill Prevention, Control, and Countermeasures Plan (SPCCP) to comply with Environmental Protection Agency's regulations. *Justification: To minimize potential water quality impacts after construction.*
19. Maintenance dredging may be performed within the areas permitted for dredging within ten years from the date of this permit. The maintenance dredging shall be accomplished during normal flow conditions in order to minimize the turbidity levels. In addition, if possible, maintenance dredging must be performed during a period of the year that is not spawning season (April through September), in order to minimize the impacts on aquatic life. This office must be contacted at least 30 days prior to maintenance dredging activities for written approval. *Justification: To provide maintenance dredging to remove accumulated sediments in the harbor for navigation safety while minimizing turbidity levels and aquatic impacts.*
20. If any areas are proposed for excavation and/or dredging outside of the originally permitted areas, then you must also contact this office prior to dredging activities for approval. *Justification: To ensure that additional areas that were not permitted are not dredged without the proper approvals.*
21. You must contact the Regulatory Office (Amy Robinson at 615-369-7509) to arrange the following onsite compliance meetings. These meetings are required, but are not limited to the following:
 - a. A **Pre-Construction Meeting** with you, your contractors, and representatives from this office and TVA shall be held prior to any work in the waterway. The contractors shall present their method of operation for the work at this meeting. A complete set of contract drawings and specifications must be furnished at this meeting. You must contact this office and/or TVA office at least two weeks prior to construction to

arrange the required pre-construction meeting. *Justification: To minimize permit noncompliance.*

- b. You must contact TVA and this office upon completion of Marina A and the bank stabilization activities to arrange an onsite inspection by this office. *Justification: To ensure project compliance.*
- c. You must contact TVA and this office upon completion of the project to arrange a final construction inspection. *Justification: To ensure project and mitigation measures compliance.*


5.7. Findings of No Significant Impact. Based on a full consideration of the EA, information obtained from cooperating federal/state agencies, and comments received from the interested public, I have concluded that issuance or denial of the requested permit would not constitute a major federal action that would significantly affect the quality of the human environment. This constitutes a Findings of No Significant Impact (FONSI); therefore, the preparation of an Environmental Impact Statement is not required. This FONSI was prepared in accordance with paragraph 7a of Appendix B, 33 CFR 325 dated 3 February 1988 (effective 4 March 1988).

5.8. Public Interest Determination. I have reviewed the application, responses to the Public Notice, and the EA. Adverse comments received concerning the proposal have been addressed by the applicant and throughout this EA. Environmental impacts would occur during the construction phase of the project. However, adverse impacts to the aquatic environment would be minimized to the extent possible, as the applicant has proposed construction methods and operational measures to minimize the impacts on water quality and turbidity; such as providing bank stabilization and pump-out facilities. The applicant designed the dredging of the boat access channel to avoid the shallow water habitat areas. Concern of the large size of the marina lead to condition that would be placed on DA and TVA permits that the harbor limits for Marina B are contingent upon a 50% occupancy of Marina A's 70' slips to be verified by signed contracts on 26 of the 52 slips. If Marina A is not built and occupied to this extent, harbor limits will not be granted for Marina B. Terrestrial and wildlife impacts, including conversion of the open land, to residential and commercial property, would also occur. However, this conversion would likely occur in the near future with or without issuance of a DA permit for the subject proposal, as the area is rapidly undergoing changes. The marina facilities could enhance the aquatic habitat by providing additional rock habitat and shading by over-water structures. Additional special conditions would be incorporated in the DA permit to further minimize the environmental impacts, as outlined in Section 5.6. No threatened or endangered species would be impacted by the proposed work and USFWS stated the work was in accordance with Section 7 of the Endangered Species Act. No archaeological and/or historic sites would be impacted by the proposed work. Therefore, compliance with the special conditions and the water quality certification would minimize the

environmental impacts to the extent possible. The construction of the new marina and residential/commercial development is expected to create an economic benefit for the applicant, the towns of Muscle Shoals, Florence, and Sheffield, and Colbert and Lawrence County areas, local businesses, increased jobs for the local workforce during construction and for marina operation, contractors, subcontractors, material suppliers, tourism, adjacent properties, and the increased tax revenue for the county. The project would provide enhanced water-related recreation opportunities along the Tennessee River and Wilson Lake for residents in the new development, moorage facilities for others in the area, and transient docking for others using the river, while providing fueling services, launching facilities, pump-out facilities, boat and canoe rental, food and a restaurant, and marine sales. Thus, the proposed work would benefit the overall public from increased recreational and economic opportunities.

Having weighed these potential benefits that may be accrued against the reasonably foreseeable detrimental effects, I conclude that permit issuance would not be contrary to the public interest.

8-3-06
Date



Bradley N. Bishop
Chief, Western Regulatory Section
Operations Division